REMARKS

Claims 1-70 remain in this application.

Claims 1-11, 14-37, 39-49 and 52-69 were rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,327,812 to Hedman et al (herein after also referred to as "Hedman") in view of US Patent 4,681,739 to Rosenblatt et al. (herein after also referred to as Rosenblatt. The cited references fail to render obvious the above claims.

Hedman fails to suggest or render obvious the above claims since, among other things, Hedman does not even remotely suggest employing chlorine dioxide gas as required by the present invention. In fact, as will be discussed below, Hedman, as well as the prior art, if anything actually teaches away from using chlorine dioxide gas.

Hedman suggest a method for destroying and removing organisms and toxins from an enclosure, such as a building, using an environmentally acceptable gas that is heated at high temperature.

More particularly, the method of killing organisms and removing them , discussed and claimed by Hedman relates to introducing hot air into an enclosure such as a building through one or more ducts to raise the structure temperature to at least about 120°F. Ozone may be added to the heated air to improve efficiency, but is not required. The Hedman reference does not teach or suggest the practice of their invention below about 120°F. The Hedman reference does not teach or suggest the substitution of another agent for ozone. The Hedman et al. reference does not teach or suggest that the method of raising the structure temperature to at least about 120°F would be effective to kill bacterial spores such as anthrax spores.

Use of chlorine dioxide would be contrary to the discussion in Hedman, since Hedman requires temperatures of at least about 120°F. However, gaseous chlorine dioxide is known to be very unstable and is deemed hazardous when heated, since it has a tendency to explode when heated. It would therefore be counterintuitive to employ chlorine dioxide in the heat treatment process required by Hedman. In addition, chlorine dioxide is both irritating to the skin and mucous membrane further removing it from being a candidate for the purposes employed in the Hedman invention. Moreover, Hedman requires a positive pressure inside the building such that

hot air escapes from the enclosure with sufficient velocity so as to allow dead organisms to become airborne so that the organisms are trapped by a filter associated with an exhaust vent (col. 3, lines 26-33).

Claims 25 and 58 further distinguish over Hedman in reciting temperatures of "70-80°F." Claims 58 and also claim 24 further distinguish over Hedman et al. in reciting a "relative humidity of 60-80%." Hedman. does not teach monitoring or controlling the relative humidity.

Furthermore, since Hedman requires removing "all heat sensitive items" from the building (see column 1, line 64), the process of Hedman would be highly impractical and not even be suitable for the types of decontaminations made possible by the present invention such as for decontamination due to anthrax.

Rosenblatt does not overcome the above discussed deficiencies of Hedman with respect to rendering obvious the above claims. No motivation exists in Rosenblatt et al. to use chlorine dioxide gas in place of the heat treatment required by Hedman. This is especially so since Rosenblatt is merely concerned with small sealable enclosures capable of having vacuums drawn thereof as contrasted to buildings that are the subject of Hedman.

Furthermore, modifying Hedman with teachings from Rosenblatt would destroy the invention on which Hedman is based. It is well established law that one may not pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art. Bausch & Lomb, Inc., v. Barnes-Hind/Hydrocurve Inc., 796 F.2d 443, 448, 230 USPQ 416, 419 (Fed. Cir. 1986), *cert., denied,* 484 U.S. 823 (1987) In re Kamm, 452 F.2d 1052, 1057, 172 USPQ 298, 301-02 (CCPA 1972) In this case, it is proposed in the Office Action to reduce the fumigation temperature of Hedman to 60-70°F even though Hedman requires fumigation at temperatures above 120°F.

In addition, neither Hedman nor Rosenblatt overcome the teachings in the art that actually lead away from the invention. Along these lines, see US Patent 6,500,465 to Ronlan that discloses failures in attempting to use chlorine dioxide for decontaminating large buildings. See column 1, lines 29-32. Also see, the Congressional Hearing from November 8, 2001 on "The

Decontamination of Anthrax and other Biological Agents" (copy attached) that discusses the state of the art in anthrax decontamination.

For instance, the introductory remarks state that "this hearing is an attempt to shed light on what we know about the options for decontaminating biological agents, the gaps in our knowledge, and the most expeditious ways to learn what we must in order to deal effectively with the crisis at hand...In the National Defense Authorization Act for FY 1997, Congress directed the Secretary of Defense to test and improve the response of all levels of government to emergencies involving biological and chemical weapons. As part of that effort, DOD initiated a joint program with the Department of Health and Human Services, the Federal Emergency Management Agency, the Federal Bureau of Investigation, EPA, and the Department of Energy. That group, the Biological Weapons Improved Response Program, identified serious gaps in our ability to respond to a biological attack...Those gaps included deficiencies in our understanding of how to decontaminate a public building after a biological attack...A 1998 review of decontamination technologies and protocols conducted for EPA by the private Institute for Defense Analysis concluded that **there were no current protocols to decontaminate an office or workspace or an entire public building...**(emphasis added)"

The text goes on to describe how decontaminating in a laboratory is very different from decontaminating a building. Concerning chlorine dioxide, it states:

> Chlorine dioxide, the gas chosen to decontaminate the Hart Senate Office Building, has been used for almost 60 years as a bleaching agent...In controlled experiments, the gas has been shown to kill bacterial spores, such as those of the anthrax microbe, by perforating the spore wall. However, the gas is potentially explosive and some have raised concerns about the safety of using it in such a large building.

Also, see 1999 JAMA publication by the Working Group on Civilian Biodefense (copy attached) which states on page 11, that decontamination of a building after an anthrax attack **"would be extremely difficult and is not recommended."** Note the first page stated objectives and participants. The participants would appear to be a top notch group from academic medical

institutions, government, military and the like with the requisite expertise for studying the decontamination problem.

In sharp contrast to these admonishments concerning the risk of chlorine dioxide, the present invention made it possible to successfully decontaminate both the Hart Senate Building and the Brentwood Postal Plant in D.C. (see the Washington Post, December 18, 2002, A1, A-14, and A-15 (copy attached).

Where, as in the present case, the teachings of the art would discourage persons skilled therein from doing what applicant teaches and claims, the art establishes "the very antithesis of obviousness." See *In re Rosenburger* 156 USPQ 24 (CCPA 1967) and *In re Buehler* 185 USPQ 781 (CCPA 1975).

Regarding claims 2 and 40, the Office Action asserts that Rosenblatt teaches the elements of claims 2 and 40, namely "wherein the step of removing the chlorine dioxide gas includes the steps of purging the generator and emitter and scrubbing chlorine dioxide gas from the enclosed volume". However, arguments with respect to claims 2 and 40 do not overcome the deficiencies in the rejection with respect to claims 1 and 39 from which they depend, namely that there is no evidence that one of ordinary skill would combine Hedman and Rosenblatt.

Regarding claims 3, 4, 41, and 42, the Office Action asserts that Rosenblatt in conjunction with Hedman teaches elements of these claims. The referenced portion of Rosenblatt allegedly teaching the elements of claims 3, 4, 41 and 42 does nothing to cure the defects of Hedman or Rosenblatt with respect to independent claims from which these claims. Therefore, claims 3, 4, 41 and 42 are allowable.

Regarding claims 5, 6, 44 and 45, the Office Action asserts that Rosenblatt teaches an emitter also used for scrubbing. The Office Action also includes the following: "Also as mentioned above with respect to claim 1, Hedman uses ozone emitters (col. 3 lines 46-49 and Figure 1, 20) in building, which was previously habitable and also teaches of removing ozone from buildings (Figure 1, 22, 24 and 26) after completing treatment of a building (restoring habitability)." Applicant cannot find the term "ozone emitter" in Hedman. Further Hedman, (1) does not use a scrubber, (2) shows the exhaust fan outside the structure in Fig. 1, (3) does not

show an emitter used as a scrubber, (4) nor does Hedman show the emitter used for scrubbing as being located in a habitable structure.

Regarding claims 7-10, 14, 24, 45-48, 52 and 57, the Office Action asserts that Rosenblatt teaches adjusting both the relative humidity and temperature *in a habitable enclosed volume,* "intrinsically" (albeit in absence of any teaching or suggestion in the art cited) avoids condensation by monitoring and controlling the dew point within the enclosed volume (*i.e. habitable enclosed volume)* and reducing the level of illumination *in a habitable enclosed volume.*

As noted above, Rosenblatt is not directed to anything other than small sealable enclosures capable of having vacuums drawn thereon. Furthermore, there is no evidence presented to show a suggestion from the prior art to combine the teachings of Rosenblatt with the teachings of Hedman. Therefore, the elements of dependent claims 7-10, 14, 24, 45-48, 52 and 57 are not taught by the cited references and any rejection of these claims under 35 USC § 103(a) is improper. Applicant respectfully requests that claims 7-10, 14, 24, 45-48, 52 and 57 be allowed.

Regarding claims 21-23, 31-33, 54-56, and 64-65, the Office Action asserts Rosenblatt teaches that the enclosed volume undergoes a vacuum, the chlorine solution inherently has an equilibrium partial pressure (col. 6, lines 1-7), the sterilant gas penetrates the contents in the enclosed volume and the enclosed volume requiring fumigation is contaminated with any type of spore. Not only does Rosenblatt fail to teach the elements of claim 21, but it fails to teach the elements of claim 1, alone or in combination with Hedman, and therefore it cannot form the basis of a valid 35 USC § 103(a) rejection. As such, allowance of claims 21-23, 31-33, 54-56 and 64-65, is requested.

Regarding claims 12 and 50, the Office Action asserts that Hedman in combination with Rosenblatt and Smith teach each and every limitation claimed. The Examiner properly notes that neither Hedman nor Rosenblatt teach treating a vehicle. However, the Office Action goes on to incorrectly state that it would have been obvious to modify the references using Smith to include treating a vehicle, since there is an established relationship between respiratory ailment

symptoms and automobile air conditioning. This is a conclusory statement, not the presentation of evidence from the prior art as required by law. See *In re Zurko*, 258 F. 3d 1379, 1386 (Fed. Cir. 2001).

In contrast, Applicant's invention of claims 12 and 50 fumigates all surfaces including the occupants' spaces and leaves no residue after treatment. Smith actually teaches away from Applicant's invention of claims 12 and 50 in other ways. First, Smith attempts to reduce the humidity level in the air conditioning duct when humidity levels approach 70% (col. 8, lines 58-62). In contrast, Applicant's invention climatizes the environment by adjusting the humidity until it reaches a range of 60-80%. As seen from the foregoing arguments, Smith does nothing to overcome the shortcomings of Hedman and Rosenblatt in relation to claims 12 and 50. And, when taken as a whole, Smith teaches away from Applicant's claimed method. In view of the foregoing remarks, allowance of claims 12 and 50 is respectfully requested.

Regarding claims 13 and 51, the Office Action asserts that Hedman in combination with Rosenblatt and Halaby teach every element of claims 13 and 51. No evidence from the prior art is presented as required by law, only a conclusory statement of what one of ordinary skill in the art would do. The Halaby reference does not provide motivation to combine Rosenblatt and Hedman and does not overcome the shortcomings of the two references individually which have been discussed hereinabove in connection with claims 1 and 39, from which these claims depend. Applicant respectfully requests withdrawal of the rejections of claims 13 and 51 and allowance of these claims.

Regarding claims 38 and 70, the Office Action asserts that Hedman, Rosenblatt and Spink taken together teach every element of the claim. In particular, the Examiner states that it would have been obvious to substitute the detoxification process of Spink with the disclosures of Hedman and Rosenblatt to arrive at the invention of claims 38 and 70. No evidence from the prior art is presented as required by law, only a conclusory statement of what one of ordinary skill in the art would do. As previously argued in conjunction with claims 1 and 39, no evidence from the prior art has been presented to teach or suggest the combination of Hedman and Rosenblatt. Adding Spink to the mix does nothing to cure the deficiencies. And therefore, a valid

35 USC § 103(a) rejection of claims 38 and 70 cannot be sustained. Applicant respectfully requests that claims 38 and 70 be allowed.

Concerning the above rejections, the mere fact that the prior art could be modified as suggested in the office action would not have made the modification obvious unless the prior art suggested the desirability of the modification. *In re Gordon*, 733 F.2d 900, 902, 221, U.S.P.Q. 1125, (Fed. Cir. 1984), Here, the record shows no evidence or finding of any motivation , suggestion or teaching, explicit or implicit, that would suggest modification or combination of the cited references, only conclusory statements that one skilled in the art at the time of the invention would so modify or combine the references. Thus, the burden to present a *prima facie* case has not been borne for any of the combinations of references.

The case law addressing the requirements for establishing a *prima facie* 35 USC § 103(a) rejection is well settled. In particular, establishing a *prima facie* case of obviousness under 35 USC § 103(a) requires that each of three requirements must be met. First, the references, taken alone or in combination, must teach or suggest each and every element recited in the claims. See M.P.E.P. § 2143.03 (8th ed. Rev. 1, Fed. 2003) citing *In re Royka*, 490 F. 2d 981, 180 USPQ 580 (CCPA 1974). Second, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of the ordinary skill in the art, to combine the references in a manner resulting in the claimed invention. And third, a reasonable expectation of success must exist. Furthermore, each of these requirements must "be found in the prior art, and not be based on applicant's disclosure." M.P.E.P § 2143 (8th ed. Rev. 1, Feb. 2001). Determinations of *prima facie* obviousness must be supported by a finding of "substantial evidence." See *In re Zurko*, supra. Specifically, unless "substantial evidence" is found in the record that supports the factual determinations central to the issue of patentability, including motivation, the rejection is improper and should be withdrawn. In this case, there is no "substantial evidence" in the record to support the combinations asserted in the Office Action, nor is there the requisite "clear and particular" motivation required to support a *prima facie* case of obviousness.

The Patent and Trademark Office has the burden under section 103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074; 5 USPQ 2d 1596 (Fed. Cir. 1988). It can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of the ordinary skill in the art would lead that individual to combine the relevant teachings of the references. Id. The Applicant respectfully submits that the Patent and Trademark Office has not borne the burden to establish a *prima facie* case of obviousness, and requests that all rejections under 35 USC § 103 (a) be withdrawn.

Obviousness cannot be established by locating references which describe various aspects of the invention without also providing evidence of the motivating force which would impel one skilled in the art to do what the Applicant has done. *Ex parte Levengood*, 28 USPQ 2d 1300, 1302 (Bd. Pat. App. & Int. 1993). When prior art references require selective combination to render obvious a subsequent invention there must be some reason for the combination other than the hindsight gleaned from the invention itself. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 USPQ. 543 (Fed. Cir. 1985). There must be something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination. *Lindemann Maschinenfabrik GmbH v. American Hoist and Derrick Co.*, 730 F.2d 1452, 1462, 221 U.S.P.Q. 481, 488 (Fed. Cir. 1984). The motivation, suggest or teaching may come explicitly from statements in the prior art, or, in some cases, the nature of the problem to be solved. *In re Kotzab*, 217 F.3d 1365, 1370, 44 USPQ.2D 1313 (Fed. Cir. 2000). In addition, the teaching, motivation or suggestion may be implicit from the prior art as a whole, rather than stated expressly in the references. Id. The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem as a whole would have suggested to those of ordinary skill in the art. Id. Whether reliance is placed on an express or an implicit showing, particular findings related thereto must be provided. Broad conclusory statements standing alone are not "evidence." Id.

In the present case, no evidence of a suggestion or motivation has been presented to combine the Hedman and Rosenblatt references, but only conclusory statements.

Also, the cited art fails to provide the degree of predictability of success of achieving the results attainable by the present invention needed to sustain a rejection under 35 USC 103. See *Diversitech Corp. v. Century Steps, Inc.* 7 USPQ2d 1315 (Fed. Cir. 1988), *In re Mercier*, 185 USPQ 774 (CCPA 1975) and *In re Naylor*, 152 USPQ 106 (CCPA 1966).

The rejection of the claims is in the nature of "ought to be tried" which is an impermissible standard under 35 U.S.C. 103 (see *Jones v. Hardy*, 220 U.S.P.Q. 1021 [Fed. Cir, 1984]).

The present invention could only be derived from the references by the use of "hindsight", i.e. by knowing what Applicants' invention was in advance from Applicants' disclosure, and then ex post facto reconstructing Applicants' invention from the prior art after a thorough search. The prior art did not lead person of ordinary skill in the art at the time the invention was made to Applicants' invention for the reasons stated herein.

The Examiner knew, from Applicants' own disclosure, what Applicants' invention was when the patentability search was conducted. It is not easy to separate what the Examiner knew from the Applicants disclosure and what the prior art suggests. By the nature of the examination, the Examiner makes his determination of obviousness ex post facto. The person of ordinary skill in the art does not have the advantage of knowing what the invention is, and must derive the invention from his insight as applied to the prior art. Applicants urge the Examiner to keep this in mind when deciding whether Applicants' invention is obvious.

In this regard, the discussion in *In re Kotzab*, 55 U.S.P.Q. 2d 1313 (Fed. Cir. 2000) at page 1317 is instructive:

A critical step in analyzing the patentability of claims pursuant to section 103(a) is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. See *In re* Dembiczak, 175 F.3d at 999, 50 USPQ2d at 1617. Close adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that

which only the invention taught is used against its teacher. Id. (quoting *W.L. Gore & Assocs., Inc, v Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303,313 (Fed. Cir. 1983).

In view of the rejections under 35 U.S.C. § 103 (a) the Applicant and Applicant's representatives are mindful of the obligation under 37 CFR 1.56, as recited in the Office Action, to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made. Evidence to the contrary, if and when available, will be properly disclosed in order that the examiner may consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f), or (g) prior art under 35 U.S.C. 103(a).

CONCLUSION

In view of the above remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone call would expedite the prosecution of this case, the Examiner is invited to call the undersigned at 202-331-7111.

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Respectfully submitted,

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